

Accordingly, entry of the amendments is respectfully requested.

The applicants also submitted an Information Disclosure Statement on June 24, 2002 submitting documents cited in a European Search Report in the corresponding European application. Applicants comments on the cited references to Barakai, U.S. Patent No. 5,103,079 and Campbell, Jr., U.S. Patent No. 5,396,624 are as follows.

According to the invention, both individual identification information and group value information are stored in each of the electronic storage media. On the other hand, individual identification information of invalid storage media are held in the form of lists on a group value basis. When an electronic storage medium is to be used, a list of a group corresponding to the group value of the storage medium is referenced. If the storage medium is not registered in the reference list, the storage medium is determined to be a valid electronic storage medium. If the storage medium is registered in the list, the storage medium is determined to be an invalid one.

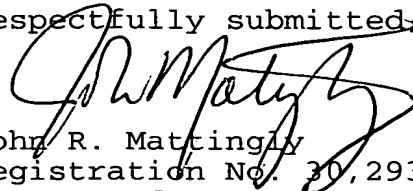
As seen in Fig. 2 of Barakai et al, electronic storage media are classified. Further, whether an electronic storage medium to be checked belongs to a gray class or not is determined based on the basis of a list of gray classes. If the storage medium does not belong to a gray class in the list, the storage medium is determined to be a valid

electronic storage medium. However, if the storage medium belongs to a gray class in the list, then the storage medium is compared with a black list. Accordingly, Barakai et al has a list of gray classes in addition to a black list, which is different from the present invention.

As seen from Fig. 2 of Campbell, Jr., an account number is subject to algorithmic processing (hashing) to generate a hashed account number of six digits. The least significant two digits of the hashed account number are used in a subtraction processing to generate a stack number (see col. 8, lines 1-40 of the reference). It is checked whether or not an identifying number, which is the most significant four digits of the hashed account number, is registered in a stack corresponding to the subtracted number. If the identifying number is not registered, the account number is determined as a valid one. Even if the identifying number is registered, however, a further check is continued by a central source because there is a possibility that the account number may be a valid one (see Col. 3, lines 8-17 of Campbell, Jr.). Accordingly, since Campbell, Jr. discloses missing a hash value, a further check is necessary by a central source, even if the four-digit identifying number is registered in a stack corresponding to the subtracted number, which is different from the present invention.

Entry of the foregoing amendments and examination in
view of the foregoing remarks are respectfully requested.

Respectfully submitted,



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MARKED UP VERSION OF REWRITTEN CLAIMS

1. (Amended) A method for detecting invalid electronic storage media [each storing therein identification information recognized as an invalid electronic storage medium], said method comprising the steps of:

containing individual identification information and group value information in each of said electronic storage media;

[registering the] holding a list which registers said individual identification information [on said] of an invalid electronic storage media [as a list,] in one of a plurality of groups corresponding to said group value information of said individual identification information [being grouped into a plurality of groups];

[assigning the individual identification information and group value information to each of said electronic storage media;]

reading said individual identification information and said group value information in response to a usage request for said electronic storage medium;

checking one of said plurality of groups if the individual identification information on the electronic storage medium is registered therewith, said one of plurality of groups corresponding to said group value information that was read; and

judging that the requested electronic storage medium is invalid if [the] said individual identification information corresponding thereto is found, and judging that the requested electronic storage medium is valid if [the] said individual identification information corresponding thereto is not found.

3. (Amended) A card system comprising:

a plurality of cards each having unique identification information;

a card management system for issuing and managing said cards; and

a card application unit, connected to said card management system, for reading data from the card in response to a usage request;

said card [comprising] including the individual identification information and group value information identifying a group to be searched,

said management system comprising card issuance and management means for issuing and managing said cards, [hot list] creation means for creating a hot list listing invalid cards, and communication means for communicating with said card application unit via the communication line,

said card application unit [comprising read] including means for reading the individual identification information and the group value from the card, [by-group list creation] means for creating a by-group list from the hot list

[21] distributed from the card management system via the communication line, said by-group list grouped by the group value, invalid card checking means for checking if said card that was read is invalid, card processing means for processing the card based on a result of said invalid card checking means, and communication means for communicating with said card management system via the communication line.

9. (Amended) A method for issuing a new card in a card management system, the method comprising the steps of:

preparing a plurality of groups corresponding to group values as card classification information;

examining an invalid card occurrence ratio of [each] said group values for the cards already issued; and

issuing the new card to be assigned with [which the] one of the group values other than the group value with the highest invalid card occurrence ratio [is assigned].

15. (Amended) A card comprising:

individual identification information assigned to the card; and

group value information assigned to said card, said group value information being one of a plurality of values prepared for classifying the cards,

wherein said group value information specifies a [which] group value part to be searched on a list listing invalid cards classified into said plurality of values.

16. (Amended) A card management system wherein a plurality of group values are prepared as card classification information, said system comprising:

a hot list creation unit which creates a hot list containing at least individual identification information for each of invalid cards;

a storage unit for storing said hot list; and

a card issuance and management unit which reads said hot list from said storage unit, finds the group value assigned to each of said invalid cards, checks an invalid card occurrence ratio of each group value, and issues a new card assigned to [which] are of the group values other than the group value with the highest invalid card occurrence ratio [is assigned].

19. (Amended) A method for detecting invalid cards in a card system, the method comprising the steps of:

preparing a plurality of groups corresponding to group values as card classification information;

[creating] holding a list listing individual identification information on [the] invalid cards, said list being used for the detection and grouped by said group values;

reading a pair of the individual identification information and the group value information assigned to the card to be examined;

checking if the individual identification information [that was] read in said reading step matches any of the individual identification information on the invalid cards of the corresponding group value information listed on said detection list; and

based on a result of said checking, judging if said card to be examined is invalid.

21. (Amended) A computer-readable recording medium which is for use in a card management system and which stores thereon a program, the program comprising the steps of:

preparing a plurality [if] of groups corresponding to values as card classification information;

examining an invalid card occurrence ratio of each group value for the cards already issued; and

issuing the new card to which the group value other than the group value with the highest invalid card occurrence ratio is assigned.

22. (Amended) A computer-readable recording medium which is for use in a card management system and which stores thereon a program, the program comprising the steps of:

preparing a plurality of groups corresponding to
group values as card classification information;

creating a holding list listing individual
identification information on the invalid cards, said list
being used for the detection and grouped by said group values;

reading a pair of individual identification
information and the group value information assigned to the
card to be examined;

checking if the individual identification
information [that was] read in said reading step read matches
any of the individual identification information listed on the
invalid cards of the corresponding group value information
listed on said detection list; and

based on a result of said checking, judging if said
card to be examined is invalid.